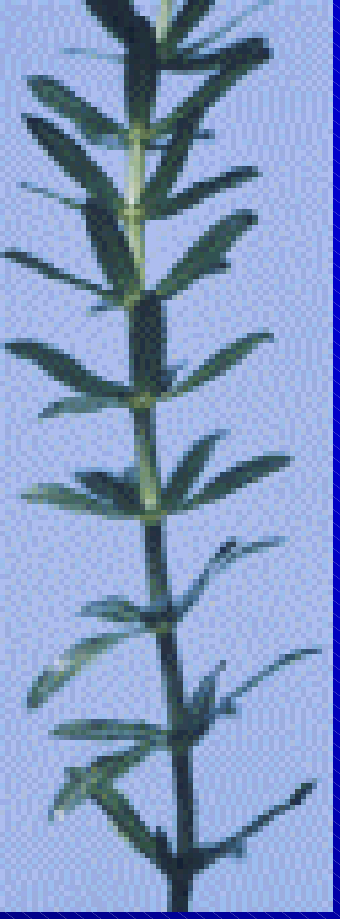
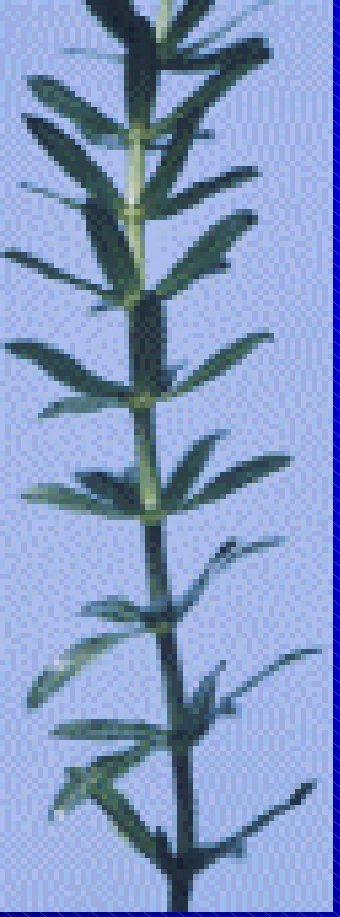


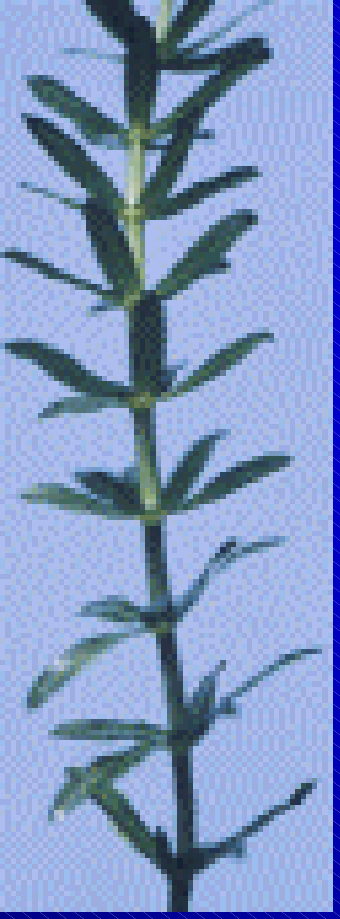
# Calaveras County Project

- CDFA:
  - Rod Kerr, District Biologist
  - Ross O'Connell, District Biologist (2003)
  - Kelly Brannigan, Ag Biologist
  - Frank Zarate, APC-Supervisor
  - Florence Maly, APC-Specialist
- Calaveras Co.:
  - Jearl Howard, Ag Commissioner
  - Mary Mutz, Asst. Ag Commissioner



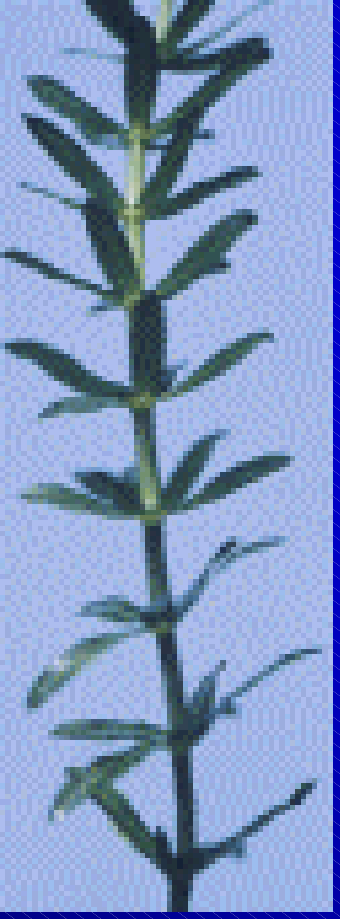
# Calaveras County Project

- Short history
  - 1988, dioecious hydrilla found in Bear Creek between Wallace and Burson
  - 1988, two ponds at Mokelumne Hill
  - About 26 miles from Disappointment Slough-the Sacramento/San Joaquin River Delta



# Calaveras County Project

- Bear Creek-Survey
  - 2001/2002 Survey: no hydrilla in found in Baker pond, Perock ponded area, other upstream ponds in over 3 years
  - 1996, 1999, 2001, 2002 plants found at Hesseltine pond, the most downstream ponded area.
    - 1999-few plants downstream of Perock
    - 2000-no finds
    - 2001-10 plants, 33 tubers, 13 turions
    - 2002-5 mats,  18 plants, 19 fragments; dredging found 66 tubers and 3 turions

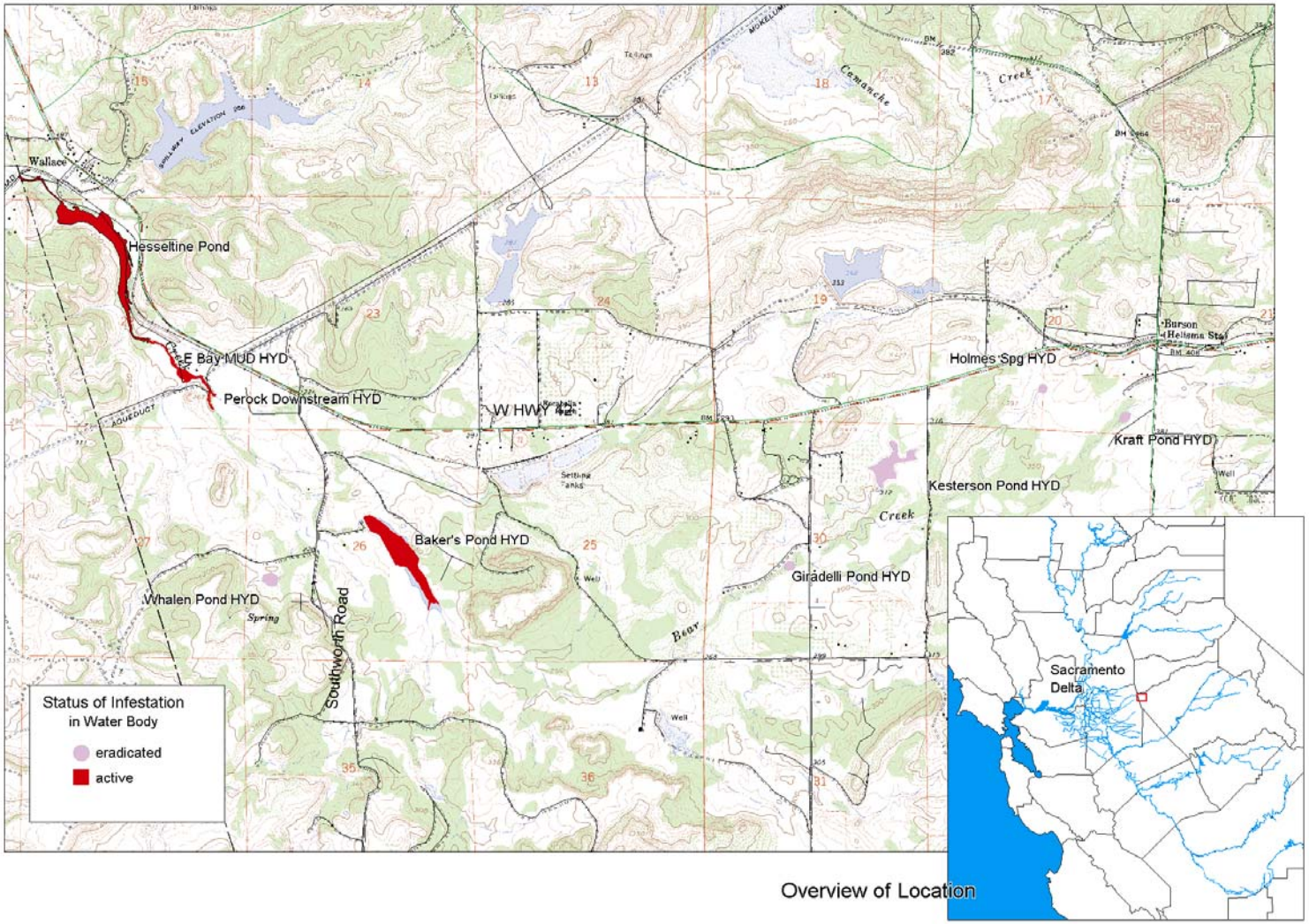


# Calaveras County Project

- Bear Creek-Treatments
  - 2001-hand removal, copper herbicide, fluridone pellets; also treated 1999 find site with fluridone pellets
  - 2002-hand removal, dredging, copper herbicide, fluridone pellets; also treated 1999 find site with fluridone pellets

**PLATE 13**

Bear Creek Drainage Hydrilla Eradication Project, Calaveras County



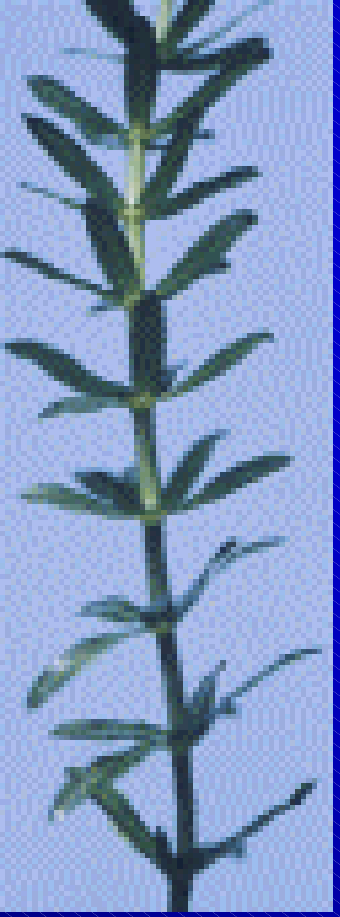
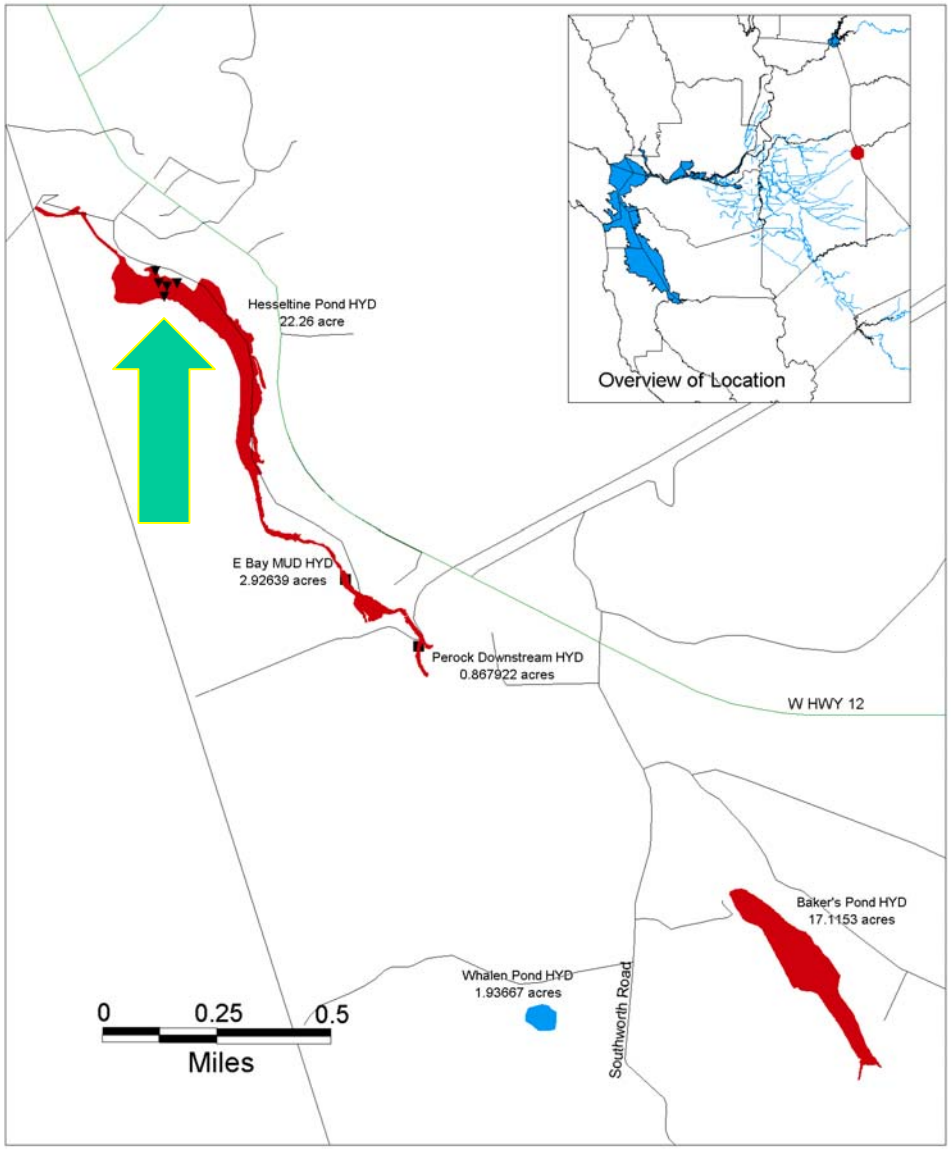


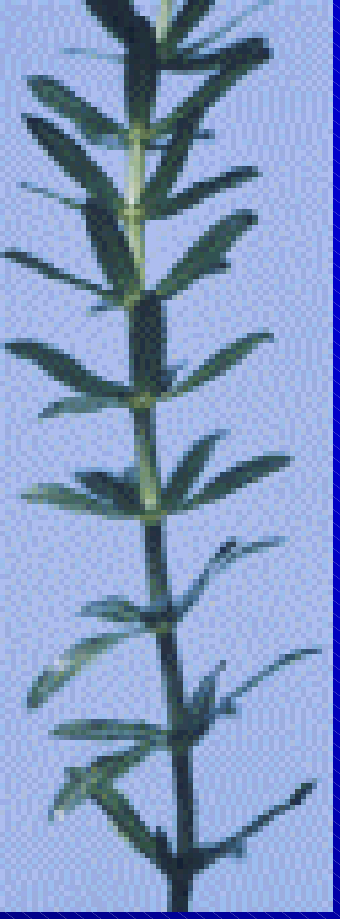
**PLATE 15**

Bear Creek Drainage Hydrilla Eradication Project, Calaveras County 2002

= Infested Areas

= Plant Locations in Hesseltine Pond





# Hesseltine Pond

# Hesseltine Pond

# Hesseltine Pond-Water Sampling Results-Copper

Green arrow indicates treated area in pond

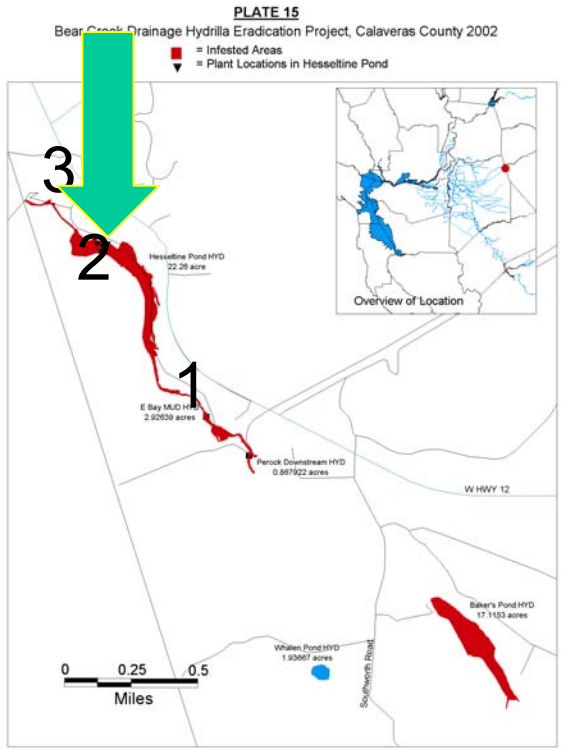
Komeen 1ppm applied July 08, 2002

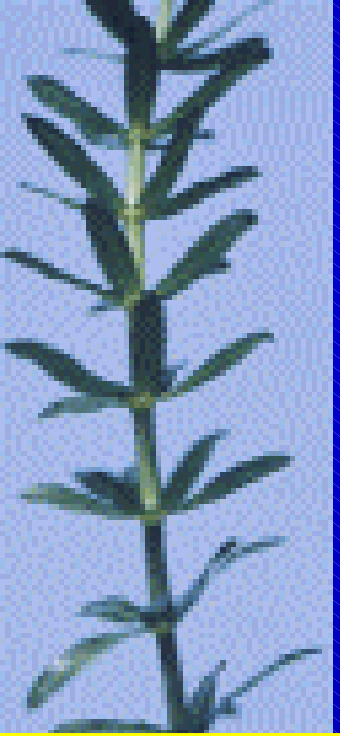
Sampling times

- Preseason
- 3 hours before application
- 2 hours after application
- 1 day after application
- 4 days after application
- 7 days after application
- 14 days after application

Sample depth: Station 2, top and bottom of pond

## Sampling Stations



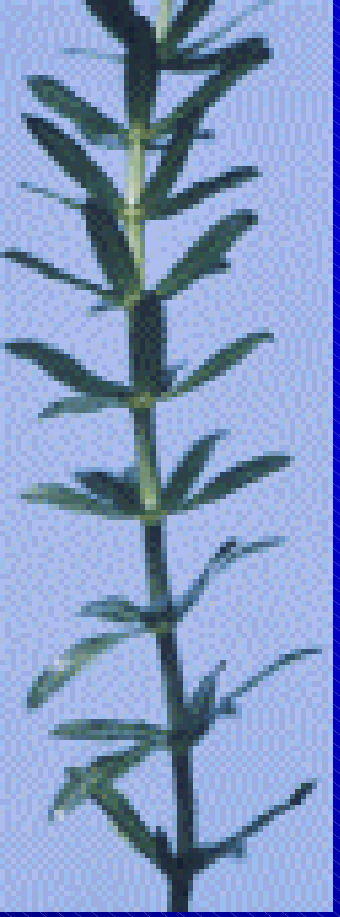


# Hesseltine Pond-Water Sampling Results-Copper

Beneficial Use Protective Water Quality Limit (BUPWQL) for copper defined as 20 ppb, based on effects on freshwater aquatic life as per the California Toxics Rule.

Analyses performed by the CDFA Center for Analytical Chemistry

| Method | Samples | Reporting Level | % Recovery | Spike levels | Minimum Detect Level |
|---|---|---|---|---|---|
| Neocuproine method for Cu+ (UV/VIS) (quantitative) | All | 20 ppb | 79-109% | 30-60 ppb | 20 ppb |



# Hesseltine Pond-Water Sampling Results-Copper

Results:

Sample Station 1

All samples < BUPWQL

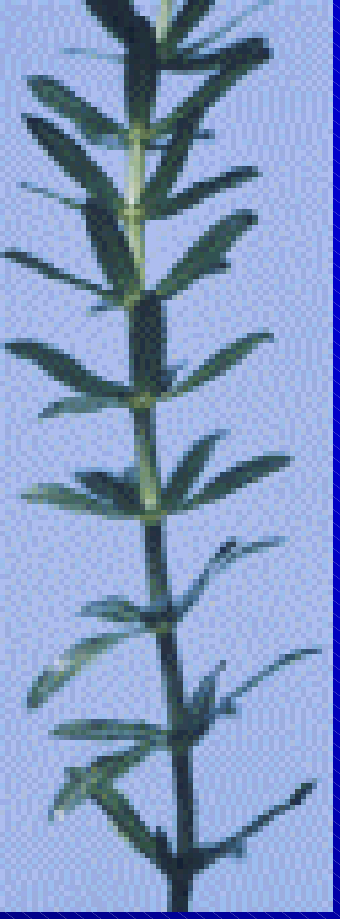
Sample Station 2

All top samples <BUPWQL

All bottom samples ND or <BUPWQL

Sample Station 3

All samples < BUPWQL



# Calaveras County Project

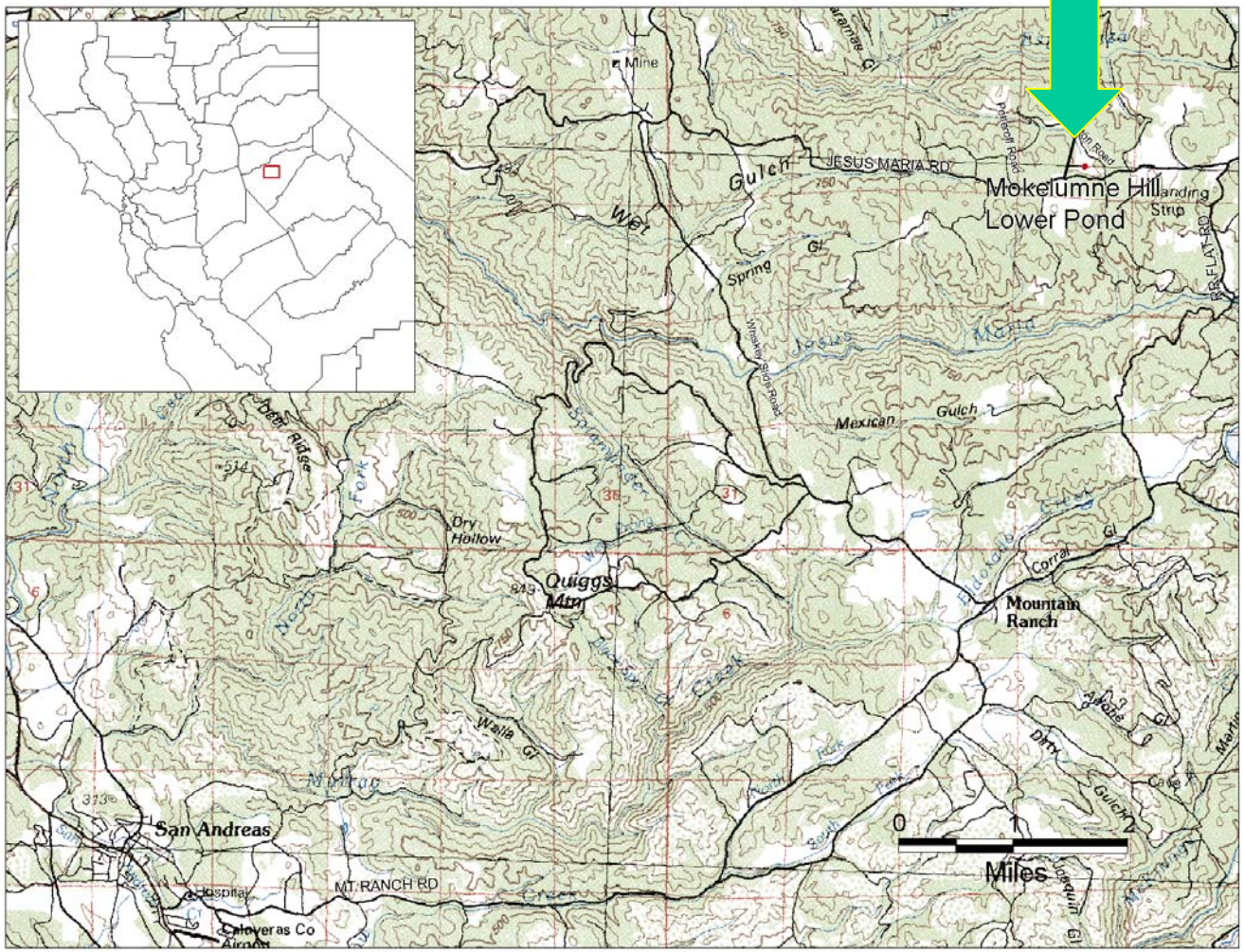
- Mokelumne Hill-Survey
  - 1997-2001: no plants found
  - 2002-4 mats, 1 plants, 49 tubers
- Mokelumne Hill-Treatment
  - Hand removal, dredging, copper, draw down

**PLATE 14**

Mokelumne Hill Hydrilla Eradication Project, Calaveras County

Pond located by GPS

■ = Inf ponds



# Mokelumne Hill